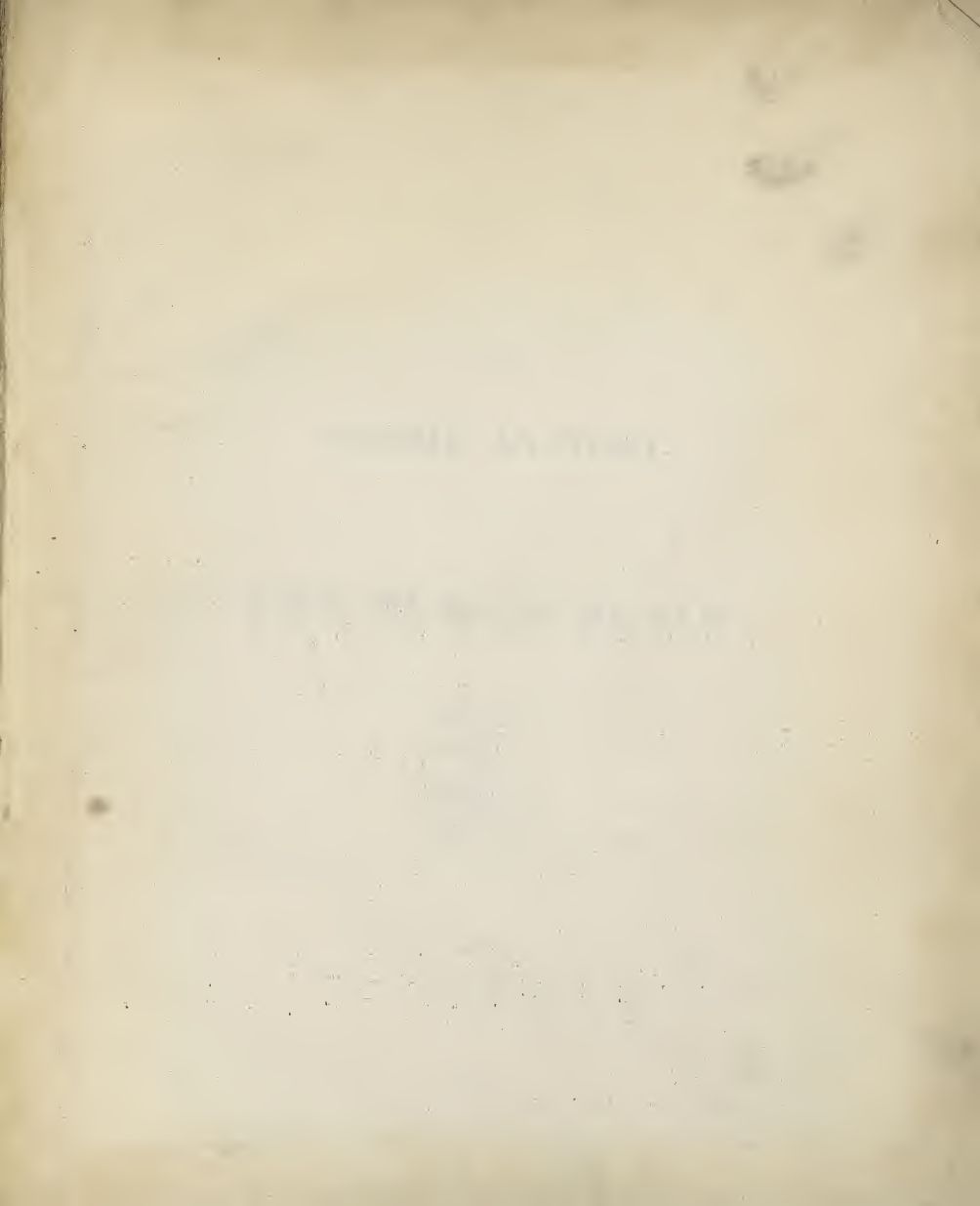


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THE
MORBID ANATOMY
OF
THE HUMAN BRAIN.



LONDON:
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THE
MORBID ANATOMY
OF THE
HUMAN BRAIN;
BEING
Illustrations
OF THE
MOST FREQUENT AND IMPORTANT
ORGANIC DISEASES
TO WHICH THAT VISCUS IS SUBJECT.

BY
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1826.

TO

SIR HENRY HALFORD, BART.

KNIGHT OF HANOVER,

PHYSICIAN IN ORDINARY TO THE KING,

PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS IN LONDON,

F.R.S. F.S.A. &c.

THIS VOLUME

IS RESPECTFULLY DEDICATED,

AS A MARK OF ESTEEM FOR HIS GREAT PROFESSIONAL TALENTS,

AND OF GRATITUDE FOR HIS UNIFORM FRIENDSHIP,

BY HIS SINCERE FRIEND,

THE AUTHOR.

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PREFACE.

It is the intention of the Author to publish a series of coloured Engravings, which will embrace, when completed, representations of the most important morbid appearances to which the viscera of the human body are subject. The present volume is a specimen of the manner in which the whole will be executed. It embraces the organic diseases of the brain, and its membranes; and may be considered as a distinct work, not being necessarily connected with the volumes which may follow.

The utility of such a work must be apparent to every one, when it is recollected that the object is to diffuse the knowledge of morbid structure, and enable the pathologist to distinguish organic diseases from one another, and thereby dispose them in classes, orders, genera, species, and varieties. When this is satisfactorily done, and the peculiar derangement of the functions of the living body ascertained which arises from the particular organic disease, nosology will assume a new and permanent arrangement, and the practice of physic arrive at its greatest perfection.

To the accuracy of the delineations, and the faithfulness of the colouring, the greatest attention has been given; and the result is so satisfactory as to afford those who have not the opportunity of investigating diseased parts, the means of becoming acquainted not only with their structure, but also with their appearances on examination; and of thus possessing a museum, in some respects more useful than the preparations themselves.



EXPLANATION OF TERMS.

CHONDROMA. (From *χόνδρος*, a cartilage, and *ωμα*, the Greek final, which usually imports external protuberance.) The cartilaginous tumour.

CEPHALOMA. (From *κέφαλος*, the brain, and *ωμα*: so named from its resemblance to brain.) The brain-like tumour.

HÆMATOMA. (From *αἷμα*, blood, and *ωμα*: so called from its resemblance to blood.) The blood-like tumour.

HYGROMA. (From *ὑγρὸς*, a humour or fluid, and *ωμα*.) The hygromatous tumour.

MELANOMA. (From *μέλας*, black, and the Greek final *ωμα*: so called from its colour.) The black tumour.

OSTEOMA. (From *ὀστέον*, a bone, and *ωμα*.) The bony tumour.

INTRODUCTION.

THE diseased appearances which the brain and its membranes, and the internal surface of the cranium afford, are,

- A. Inflammation and its effects.
- B. Tumours.
- C. Diseased structures and unnatural appearances without tumefaction.
- D. Morbid collections of fluids secreted between the membranes and in the cavities.
- E. Extravasated fluids.

- A. Inflammation exhibits an increase of vascularity; the secretion of a fluid mostly albuminous on the surface of membranes; a morbid thickening; adventitious membranes; an adhesion of membranes; abscess; ulceration; gangrene.
- B. The tumours consist either of an organized substance, varied in its appearance according to the nature of the disease, or they are formed of a membranous cyst which mostly contains a fluid.

The solid tumours of the brain are generally circumscribed, and so defined that the naked eye can see immediately where the disease terminates. These are mostly fungous or excrescential. Some, however, are so blended with the surrounding cerebral substance, being lost imperceptibly in it, that their limits cannot be easily traced. In their colour, form, and feel, they vary very much. The most usual appearance is one which comes near to that of the brain; but some are brown, others yellowish, and some black.

The greater part are soft, and easily broken down between the fingers into a pulpy mass, leaving scarcely any trace of organization. Others are of the consistence of brain; some much firmer, others of a cartilaginous or bony hardness, and the structure of some is peculiar.

They are either,

1. **ANEURISMA.** The basiliary and internal carotid arteries, or their branches, have been found aneurismal.

2. **CEPHALOMA.** An organized, fungous, vascular substance, mostly circumscribed, growing from a viscus, muscle, membrane, or nerve, and resembling the brain in appearance and feel. A cream-like fluid is easily squeezed from the cut surface. It is much less vascular than hæmatoma, and differs from it in appearance. Sometimes the natural structure of the organ is wholly destroyed, and converted into this disease.

3. **CHONDROMA.** An organized, often excrescential substance, of the structure and hardness of cartilage. Tumours of this kind in the substance of the brain, though mentioned by good authorities, have not yet occurred to me: but I have often seen the glands of Pacchioni of this structure; and cartilaginous tumours in the dura mater are not uncommon.

4. **HÆMATOMA.** An organized, fungous, vascular substance, growing from a viscus, muscle, membrane, or nerve; and resembling, when cut, coagulated blood, with portions of a firmer texture, like the albuminous part of blood when solid. Sometimes the natural structure of the organ is wholly destroyed, and then the viscus is enlarged, and converted into this disease. In some instances it expands from a small peduncle, but it mostly has a broad base.

5. **HYGROMA.** A tumour formed by a collection of fluid, either serous, albuminous, or puriform, in the cellular membrane, or in a cyst. It is not uncommon to have a portion of the brain converted into a mass of cells, filled with a serous fluid. - The pineal gland and the tunica arachnoides, especially about the medulla oblongata, occasionally present a circumscribed tumour which comes under this head, and hygroma often occurs as an encysted tumour in the substance of the brain.

6. **MELANOMA.** A soft, organized, fungous substance, of a black colour, mostly circumscribed and tubercular. The cut surface is smooth, of the colour of Indian ink, and very moderate pressure separates a fluid like the pigmentum nigrum of the eye. No part of the human body, in a healthy state, bears any resemblance to this diseased structure, except the gland-like bodies about the bifurcation of the trachea, which are occasionally very black, but very different in texture: it is therefore named from its colour, by which it is immediately known.

7. **OSTEOMA.** An organized, bony, or ivory like tumour, found in the viscera and soft parts, consisting principally of phosphate of lime and a little animal matter, mostly circumscribed and excrescential, but sometimes tubercular. This genus includes those morbid secretions, and collections of phosphate and carbonate of lime, lithate of soda, and similar hard depositions usually called calcareous.

There is a diseased appearance that also comes under this head, which consists of a gritty calcareous deposition. It occurs in the very substance of the brain, and in the pineal gland, and consists principally of phosphate of lime and animal matter. These depositions are not larger than small particles of saw-dust; are mostly of an irregular form and spicular, and when minutely examined with a lens, each portion is seen embedded in the medullary substance, and attached to a blood-vessel. I have seen a cerebellum full of these, and the whole external surface studded with small spicular and bony particles immediately under the pia matral covering.

8. **SCROFULA.** The structure of the part is converted into one which answers to the definition of this disease, and which is sometimes circumscribed or tubercular, but more frequently not so. Encysted scrofulous tumours are met with.

The encysted tumours are often seen adhering to the choroid plexus, resembling animal hydatids. These are mostly very small. Some are found embedded in the medullary substance of the brain, from which in some cases they extend into the ventricles. These sometimes acquire a great size, and are generally so closely connected with the surrounding medullary substance as to require much nicety to pare it away, in order to expose the cyst; and in doing this many vessels are torn through which nourish the cyst, and secrete its contents.

The cyst is formed of one membrane which cannot be separated into laminae. It is often of the thickness and texture of the dura mater, but in some remarkably thin. Those which are thick are very firm and opaque: the thinner are more delicate, beautifully transparent, and have very much the appearance of animal hydatids. The vascularity of the transparent cysts is seen by vessels carrying red blood ramifying on their surface; but the vascularity of the opaque cysts is not discernible by the naked eye.

The contents of these encysted tumours are either a serous fluid, like that of the serum of the blood, or an albuminous fluid, or pus.

C. The alterations of structure and unnatural appearances without tumefaction are,

1. **FLACCIDITY.** This is often found to a great extent, and is perhaps owing to an excess of serosity, for there is with it diminished elasticity. This condition of the brain often exists without a corresponding flaccidity of other parts of the body.

2. **FIRMNESS.** With a state of morbid firmness there is in most instances a dryness of the brain.

3. **PULPINESS OF A PART.** Mostly in the medullary substance.

4. **CHANGE OF COLOUR.** A part of the brain is sometimes found to be of an unnatural colour without any other morbid appearance. The membranes are occasionally tinged yellow in jaundice, but I have never seen the substance of the brain tinged with bile more than once: the subject was an elderly lady who died under the black jaundice.

D. Collections of a fluid between the membranes and in the natural cavities.

a. *Serous.*

1. Between the dura mater and tunica arachnoides.

2. Between the tunica arachnoides and pia mater.

3. In the lateral ventricles.

4. In the third ventricle.

5. In the fourth ventricle.

6. In the fifth ventricle, or cavity between the laminae of the septum lucidum, in which I have seen two fluid drachms of a serous fluid, and no dropsical appearance in any other part.

b. *Purulent.* I have found two ounces of a fluid not coagulable, having every appearance of pus, between the dura mater and tunica arachnoides of the left hemisphere, and no vestige of inflammation of the membranes.

E. Extravasated blood is frequently found within the cranium, producing unnatural appearances both between the membranes, and in the substance of the brain, which is by far the most common, and also in the ventricles. The colour, and its not being organized, though perhaps solid, show immediately the nature of the mass.

When recently extravasated, it is like a coagulum of blood in other parts. When it has been some time out of the vessels, it is more solid, and somewhat fleshy: and such extravasations as are of longer duration have been found surrounded by a morbidly vascular surface, from which vessels have proceeded into the coagulum.



PLATE I



1100th, 1850

1100th, 1850

INFLAMMATION OF THE DURA MATER.

THE EFFECT OF THE FLOODS OF 1908

The following table shows the effect of the floods of 1908 on the production of the principal crops of the United States. It is based on the figures for the year 1908, and the figures for the year 1907, which are the best available figures for the year 1907. The figures for 1908 are given in the first column, and the figures for 1907 are given in the second column. The figures are given in bushels, and are rounded to the nearest hundred thousand.

TABLE I

The effect of the floods of 1908 on the production of the principal crops of the United States. The figures are given in bushels, and are rounded to the nearest hundred thousand.

TABLE I

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INFLAMMATION OF THE DURA MATER.

THIS and the next plate represent the common effects of acute inflammation of the dura mater, namely, morbid vascularity and an effusion of albumen. In some instances an adhesion to the tunica arachnoides takes place; in others an effusion of serum or of pus, the former more frequently than the latter; but neither of these diseased appearances can be satisfactorily represented by engravings.

PLATE I.

The portion of the dura mater which covers the right hemisphere of the brain. It is so disposed that the eye looks on the internal surface, which is become extremely vascular from acute inflammation.

EXPLANATION.

- A. The external surface of the dura mater.
- B. The longitudinal sinus.
- C. The falciform process.
- D. The internal and inflamed surface.

This appearance of the internal surface of the dura mater is rarely met with, because the disease generally proceeds much further before it kills, and a quantity of serum, or an albuminous fluid, or pus, is effused; and the morbid vascularity, so beautifully represented in this plate, is not discernible.

When the dura mater is inflamed, the inflammation soon extends to the pia mater, the vessels of which are found loaded with blood, after death; the tunica arachnoides is mostly thickened and opaque, and more or less of serum, or an albuminous secretion, is interposed.

PLATE II.

Two portions of inflamed dura mater from the upper part or hemispheres of the brain. The inflammation in these instances is much more advanced than that represented in the former plate. The albuminous secretion is formed into a membrane, which has become perfectly organized by vessels shooting into it from the inflamed surface. *

FIGURE 1.

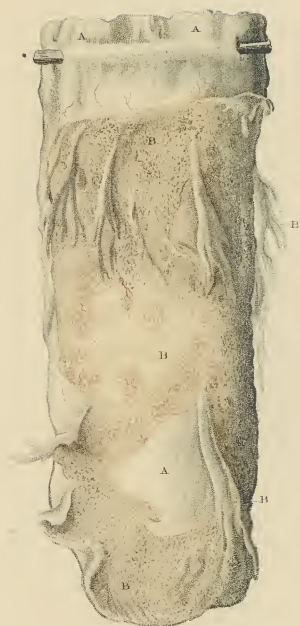
- A portion of the dura mater from the upper part of the brain.
- A. The internal surface of the dura mater.
 - B. A beautifully transparent and perfectly organized membrane, into which vessels have extended from the surface of the dura mater. The red specks are particles of blood, coagulated in the vessels by alcohol, into which the part was immediately immersed, in order to preserve it.
- The vessels of this reflected membrane were as apparent in this preparation as in that of Plate I. before it was immersed in spirit.

FIGURE 2.

- A portion of the dura mater from the left hemisphere of the brain.
- A. The internal surface of the dura mater.
 - B. A considerable quantity of solid, and partly organized, albumen, separated from the dura mater, and turned down. The vascularity of this adventitious membrane was not so observable to the naked eye as in the former instance, because the whole was opaque, and like coagulated albumen: here and there vessels are seen dipping into its substance.
 - C. Filamentous portions of albumen hanging from the surface of the dura mater.

* These two diseases are represented as they appeared immediately after they were put into diluted alcohol.

Fig 1.



J. Horsch. del^d

Fig 2.



J. Wolkowod. sculp^d

INFLAMMATION OF THE DURA MATER.







J. Howship, del.

J. Sedgewood, sculp.

INFLAMMATION OF THE PIA MATER
and
TUNICA ARACHNOIDES.

INFLAMMATION OF THE PIA MATER AND TUNICA ARACHNOIDES.

THE two following plates represent an appearance very commonly produced by inflammation of the pia mater and tunica arachnoides: viz. a great increase of vascularity, with a considerable congestion of blood in the larger vessels of the pia mater; and an opacity and thickening of the tunica arachnoides, with an effusion of an albuminous fluid between these two membranes.

When the pia mater is inflamed, it is easily separated from the convolutions of the brain, which it embraces, and from which it receives numerous vessels; and when detached, the small vessels torn from the cortical substance of the brain, thus forming the *tomentum cerebri*, are always very much loaded with blood. There is likewise, in most cases of inflammation of these membranes, a considerable quantity of a serous fluid secreted between them, particularly observable in the intergyral spaces; and there is also more or less found in the ventricles, but such appearances cannot be represented by engravings.

PLATE III.

The upper part of the cranium is removed, and the dura mater divided all around, and reflected so as to allow the whole of the two hemispheres to be seen.

The vessels of the pia mater are enlarged and turgid with blood; there is a considerable quantity of puriform albumen in patches between the two membranes; and the tunica arachnoides is, in many places, thickened and opaque.

EXPLANATION.

- A. The os frontis.
- B. The occipital bone.
- C. The left parietal bone.
- D. The dura mater detached from the *crista galli*, and cut so as to be drawn back between the hemispheres.
- E. Yellow patches or portions of albumen between the pia mater and tunica arachnoides, which very much resemble pus.
- F. The vessels of the pia mater loaded with blood.

PLATE IV.

The cerebrum and cerebellum so placed as to bring the whole of the under surface of the brain into view. The same diseased appearances are visible in this as in the former plate, but to a much greater extent : — albumen is secreted on the surface of the lobes of the cerebrum, on the cerebellum, and over the whole of the medulla oblongata.

EXPLANATION.

- A. The right anterior lobe of the brain.
- B. The left anterior lobe.
- C. The middle lobes of the brain.
- D. The two lobes of the cerebellum.
- E. The olfactory nerves.
- F. The optic nerves.
- G. The carotid arteries.
- H. The infundibulum.
- I. The medulla oblongata covered with yellow albumen, that is deposited between the pia mater and tunica arachnoides, and around the basiliary artery and the nerves of the medulla oblongata, so as to obscure their origin.
- K. The basiliary artery.
- L. Portions of puriform albumen between the tunica arachnoides and pia mater.

The quantity of albumen secreted in this instance between the membranes is very considerable, compared with what is usually found. The olfactory nerves, the optic, and the fifth pair, are almost wholly enveloped and obscured ; also the infundibulum, the internal carotid and the basiliary arteries.



Illustration of the human brain,
showing the cerebral hemispheres and the cerebellum.



J. Warding del.

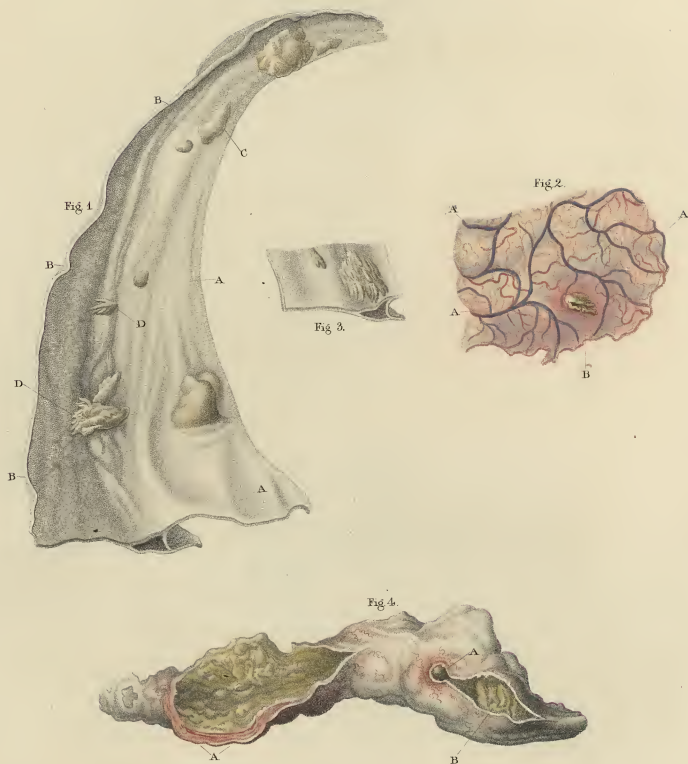
J. Wadsworth sculp.

INFLAMMATION OF THE PIA MATER
and
TUNICA ARACHNOIDES.





PLATE V.



J. Howship del.

J. W. Wood engr.

OSSIFICATION OF THE DURA AND PIA MATER
and
ABSCESS OF THE LATERAL SINUSES.



MINERALOGICAL MUSEUM, HARVARD UNIVERSITY

GEORGE D. SEYMOUR, JR., CURATOR

OSSIFICATION OF THE DURA AND PIA MATER.

PLATE V.

THIS plate contains representations of osteoma, or depositions of bony matter, in the membranes of the brain, both the dura and pia mater; and also a very unusual occurrence, an abscess of the lateral sinuses of the dura mater.

FIGURE 1.

A portion of the dura mater with its falx, on which are several portions of bone.

- A. The falciform process of the dura mater.
- B. The part of the dura mater which covers the right hemisphere of the brain.
- C. Smooth portions of bony matter deposited between the laminæ of the dura mater.
- D. Spiculæ of bony matter, deposited on, and projecting from, the internal surface of the dura mater, and covered by a very delicate and transparent membrane.

FIGURE 2.

A part of the pia mater, in which there is a small portion of bony matter, the base of which was towards the cortical substance of the brain, and the bifid or ragged point in contact with the dura mater.

- A. The vessels of the pia mater.
- B. The portion of bony matter.

FIGURE 3.

A small portion of the dura mater from another subject, with a considerable portion of bony matter which was embedded in the substance of the subjacent brain.

FIGURE 4.

A portion of the dura mater, in which the lateral sinuses are situated. It represents two abscesses cut open, one in each lateral sinus, the consequence of inflammation of the internal membrane.

A. The abscess in the left lateral sinus, the internal surface of which is covered with an albuminous secretion.

The pressure of the abscess on that part of the temporal bone which it covered, namely, the groove for the lateral sinus, just above the foramen lacerum in basi cranii, caused a complete absorption of it; a tumour pointed externally, and pus was evacuated through the meatus auditorius externus.

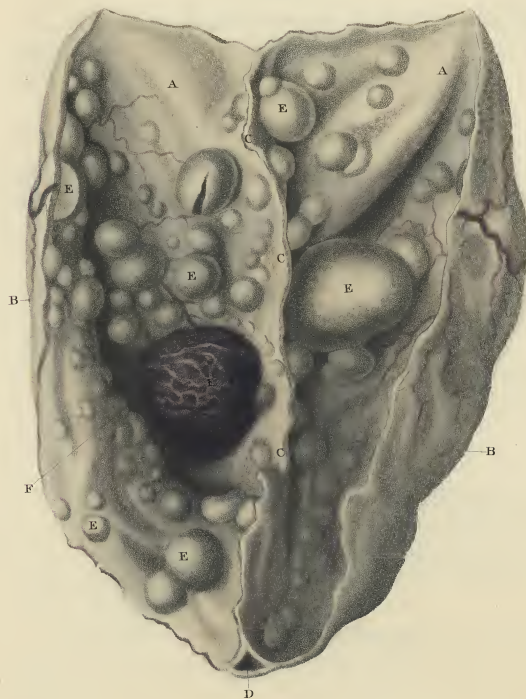
B. The abscess in the right lateral sinus, which had ulcerated the side at A, so as to cause a very small portion of the corresponding bone to become carious.

The diseased appearances which the sinuses of the dura mater have afforded are very few. The one represented in the last plate has not been noticed before. The internal surface of the membrane which lines the sinuses has been seen of a florid red colour, like that which is sometimes noticed on the internal membrane of the arterial system.

The small bodies, called the glands of Pacchioni, the use of which is not known, have been found larger than usual, and have pressed on the superincumbent bone, so as to cause it to become very thin: this unusual appearance, however, is not disease. They sometimes undergo a change so as to feel much firmer, and of a cartilaginous hardness.



PLATE VI.



G. Kirkland del.

J. Walgreen sculp.

TUBERCLES OF THE DURA MATER.

Published by D. Hooper Jan^y 1820.



Manuscrits. Bibl. Nat. Paris.

TUMOURS OF THE DURA MATER.

THE dura mater is subject to three kinds of tumours :

1. The bony tumour or osteoma.
2. The hard white tubercle; which is very firm in its texture, and has been erroneously considered as scrofulous.
3. The other tumour is soft, fungous, spongy, and in its structure resembles cephaloma.

PLATE VI.

The bony tumour or ossification is delineated in Plate V. In this plate the hard and soft tumours are represented as they occurred in the same subject. It is very probable, that they are the same disease in different stages, and that they belong to hæmatoma or cephaloma; but as no intermediate appearance has been met with, I consider them as distinct.

EXPLANATION.

The dura mater from the upper part of the brain is here suspended at the anterior part, so as to bring the whole of the internal surface into view, which is every where studded with tubercles.

- A. The internal surface of the dura mater.
- B. The external surface of the dura mater.
- C. The falciform process.
- D. The longitudinal sinus.
- E. The white hard tubercles: — their colour, both external and internal, is a yellowish white, similar to that of the dura mater, by the internal membrane of which they are covered: — their form is round and smooth: — when cut through, they appear of a solid firm texture, and void of vessels.
- F. The soft, fungous tumour, which is spongy, and in appearance and texture similar to that represented in the next plate.

PLATE VII.

A fungous tumour of the dura mater of a considerable size, arising, by a large base, from that part which covers the sphæmoid bone, a little to the right of the sella turcica, and extending across the pons Varolii to the opposite side, enveloping all the nerves, and adhering firmly to the dura mater.

EXPLANATION.

- A. The dura mater.
- B. Tubercles similar to those of the last plate.
- C. The tentorium.
- D. The tumour, a small portion of which has been removed at *a*, to expose its structure.
The colour of this fungous tumour is a pale red; it is extremely vascular, somewhat spongy; and, in appearance, bears a striking resemblance to the internal surface of the human placenta. The external surface is ragged. When squeezed, a cream-like fluid is pressed out; by maceration it becomes reticular and flocculent: see figure 2, which is a portion of the tumour macerated.
- E. The cerebellum.
- F. The divided medulla oblongata, in which the substantia nigra is seen.
- G. The pineal gland.

Adhesions between the dura and pia mater, and tunica arachnoides, produced by disease, are occasionally found: but I have not succeeded in obtaining a good representation of them.

Morbid thickness of the membranes from inflammation, scrofula, and other causes, is now and then met with. Dr. Baillie has a representation, in the 5th plate of his 10th fasciculus, of a part of the dura mater of an enormous thickness.

Opacities, and patches of ossification of the cerebral arteries of aged persons, are very common. In most instances of apoplexy produced by the spontaneous rupture of a blood-vessel in the brain, the arteries are found in this diseased state, particularly the trunks near the sella turcica and the basiliary artery.

PLATE III



UNIVERSITY OF PARIS

PLATE VII.



G. Kirkland del^d

J. Wedgwood sculp^d

FUNGOID TUMOUR OF THE DURA MATER.

Published by W. Hooper, Jan^y 1860.

PLATE VIII.



C. Ireland del.

J. Wigglesworth sculp.

DISEASED APPEARANCES SUBSEQUENT
TO INFLAMMATION.

INFLAMMATION OF THE BRAIN.

INFLAMMATION of the substance of the brain seldom occurs independent of inflammation of the membranes. When it happens, and kills, it generally destroys life, by the violence of the arterial action, and very little more is found on dissection, than a high degree of vascularity of the whole of the substance of the brain, or of a portion of it, and a great fulness of the larger vessels. Portions of albumen are sometimes deposited by the inflamed vessels. A pulpy state of the part is now and then met with, and occasionally an abscess. Gangrene is a very rare occurrence, except when the inflammation is produced by a fracture, a blow, or some external violence.

PLATE VIII.

The two diseased appearances represented in this plate are the consequence of inflammation in the substance of the brain.

In the one there is a secretion of a yellow albumen in small patches throughout the corpus striatum, and a considerable portion of the adjoining medullary substance of the brain.

The other is an extensive destruction of the medullary substance which had become soft, and resembled a mixture of pus with the medullary substance of the brain.

FIGURE 1.

A portion of brain from the left side: the upper part is removed by a section carried outward from the uppermost and lateral part of the ventricle, so as to remove the roof of that cavity.

- A. The anterior lobe of the cerebrum.
- B. The posterior lobe.

- C. The thalamus nervi optici covered with soft albumen.
- D. An immense mass of diseased structure occupying the principal part of the middle of the medullary substance of the brain, and surrounded by many enlarged vessels and an appearance like inflammation. The colour of the greater part of this morbid structure was that of a light yellow ochre; its texture pulpy, but it became as firm as the rest of the brain after being a short time in alcohol. The yellow specks are portions of albumen.

FIGURE 2.

A portion of the right half of the brain exposing the surface made by a section carried horizontally just above the corpus callosum.

- A. The anterior lobe of the cerebrum.
- B. The posterior lobe.
- C. C. C. These letters surround a considerable mass of pulpy and discoloured brain, portions of which appeared like pus, mixed with the medullary substance of the brain.



PLATE IX.



Fig 2

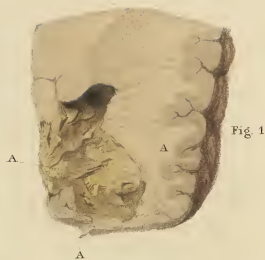


Fig 1



Fig. 3

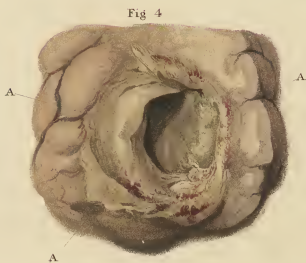


Fig 4

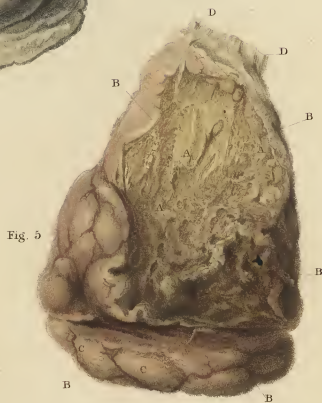


Fig 5

J. Stewart, Perit. Salt

J. Stewart, Perit. Salt

ABSCESS OF THE BRAIN.

ABSCESS OF THE BRAIN.

THE most common appearance of abscess in the substance of the brain from internal causes is that in which the pus collects in a circumscribed cavity: the parietes or sides of the abscess formed by the substance of the brain, or the membranes, if near to them. Another species is that in which the pus is contained in a cyst or membranous bag; this is similar to an encysted abscess in other parts of the body: it is far from common. There is also a third species which consists of a number of cells filled with a pus-like fluid forming a kind of quagmire.

PLATE IX.

The common, the encysted, and the cellular abscesses are represented in this plate.

FIGURE 1.

An abscess near the extremity of the anterior lobe of the brain, which contained a dessert spoonful of curdled pus. The sides of the abscess, and neighbouring medullary substance, were not in the least altered. This disease occurred in a scrofulous subject.

A. The abscess: the sides of which are covered with pus.

FIGURE 2.

A small abscess in the substance of the brain, between the lateral ventricle and the middle of the right hemisphere, which extended outward, and burst between the membranes. It contained near a fluid ounce of ill-conditioned pus.

A. The sides of the abscess, the uppermost portion of which was covered by the dura mater.

The surrounding part of the brain was pulpy and inflamed, and the membranes very much so.

FIGURE 3.

An encysted abscess in the middle of the left anterior lobe of the brain.

- A. The cyst, which contained between two and three ounces of pure fluid pus.
It is of a dense, firm, membranous texture, and of the thickness of the pericardium.
- B. The cut surface of the brain.
- C. The pia mater, the vessels of which are loaded with blood.

FIGURE 4.

An abscess in the extremity of the anterior lobe of the brain.

- A. The cavity of the abscess, the upper part of which is removed.
The contents were a serous ichor or pus; and the sides appeared clean and shining, as if covered with a delicate membrane.

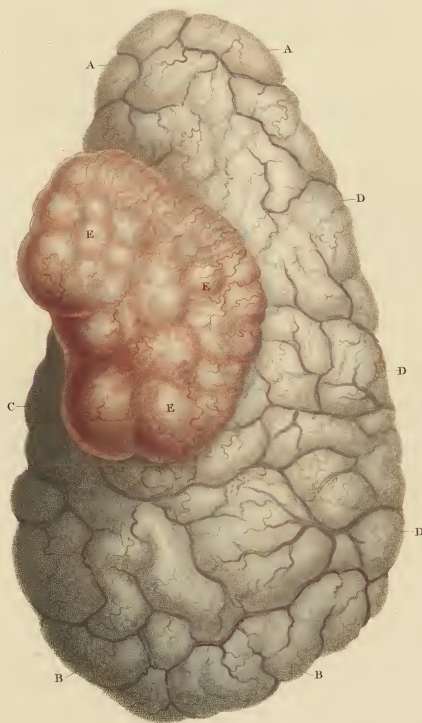
FIGURE 5.

A portion of the right anterior lobe of the brain, in the centre of which is a considerable abscess.

- A. The abscess formed by a number of cells which contained a thin and serous pus.
- B. The boundary of the abscess.
- C. Part of the left anterior lobe of the brain.
- D. A portion of the dura mater adhering to the brain.



PLATE X.



J. Howship, del.

J. Stewart, Sculp.

HÆMATOMA OF THE BRAIN.

SOLID TUMOURS OF THE BRAIN.

THE several species of this division are arranged under the heads of hæmatoma ; scrofula ; white, black, and bony tubercle.

PLATE X.

An hæmatoma of the left hemisphere of the brain, the whole of which is represented as it appeared when the dura mater was removed.

- A. The anterior lobe of the cerebrum.
- B. The posterior lobe.
- C. The middle lobe.
- D. The upper surface of the hemisphere.
- E. The hæmatoma. This tumour arises from the medullary substance of the brain near the ventricle, but it has no connexion or communication whatever with that cavity. It has a broad base, has separated the convolutions of the brain to some distance from each other, and is covered by the pia mater.

The structure of this tumour is that of hæmatoma, commonly called fungus hæmatodes. Externally, it is irregularly lobulated : to the touch it feels soft, and is somewhat elastic. It cuts firm, and exposes a vascular mottled surface of a reddish yellow colour, with portions of a blood-like structure here and there. Besides the pia matral covering, which it has raised and extended, it is covered with a very delicate and highly vascular membrane, produced, most probably, by inflammation, for it is laminated and shaggy, and has not the appearance of a cyst * connected with the growth of the disease.

* I have not yet met with a tumour within the cranium, formed of an organized structure enclosed within a cyst.

SCROFULA OF THE CEREBELLUM.

MANY diseases of the brain and its membranes have been erroneously considered as scrofulous, especially the hard tubercle of the dura mater, the white tubercle of the corpus annulare, and the tubercle of the choroid plexus.

The most decided alterations of structure in the brain from scrofula are the following; more especially when there is scrofula in other parts of the body.

1. Increased thickness of the membranes, with an appearance of inflammation, and effusions of a tough curdled pus, and some portions so solid as to cut like new cheese.
2. A conversion of a part of the medullary substance into a hard, firm structure, so like to healthy brain as to be known to be otherwise only by its much greater firmness.
3. The diseased appearance represented in the annexed plate.

PLATE XI.

Represents a scrofulous tumour of the cerebellum, being a mass consisting of a soft, brain-like structure, and a quantity of an apparently unorganized cheesy substance, intercepted by portions of membrane, and occupying almost the whole of the left lobe.* A portion of the disease has been carefully removed by a sharp knife to show its structure.

EXPLANATION.

- A. The right lobe of the cerebellum not in the least diseased.
- B. The scrofula-like substance which was surrounded by a very thin layer of cerebellum. The adhesion of the dura mater and cerebellum was in some places so firm, and the cerebellum so pulpy, that it could not be preserved.
- C. The cut surface.
- D. The membranous septa.
- E. The divided pons Varolii.

* The subject from which this was taken had scrofula in various parts of his body; and the structure of this mass of disease so resembled that of a scrofulous mesenteric gland as to leave no doubt of its nature in the minds of several practitioners, very conversant with morbid structure, who were present at the dissection.

PLATE XL.



C. Knapp del.

J. Stewart sculp.

SCROFULA OF THE CEREBELLUM.

Published by D. Hooper Junr 1830.



TUBERCLES OF THE BRAIN.

TUBERCLES are not unfrequently met with in the substance of the brain. They are distinguished by the names of the black, the white, the scrofulous, and the bony tubercle.

The white tubercle occurs now and then in the pons Varolii, and near the cortical substance of the cerebrum; is circumscribed, of a round form, and has been found of various sizes, from that of a pea to that of a walnut.

The black tubercle* is as dark as soot, very soft and pulpy: it is found in the cortical and medullary substance, and of various sizes, but mostly as small as a lentil.

The scrofulous tubercle exhibits the characters of that disease, and mostly occupies the medullary substance of the brain.

The bony tubercle is formed of a hard, bone-like structure. It occurs very seldom indeed. That represented in the next plate was given to me by Doctor Sims, who removed it from an amaurotic girl, ten years of age, who had been blind, and had tremor of her limbs, for many years. It was found in the anterior lobe of the brain, in the centre of an abscess. The only one I ever met with was in the centre of the left lobe of the cerebellum of an adult female, whose head I examined under circumstances which prevented my taking a drawing. It was the size and form of the eatable part of a small walnut, and very much resembled that which is here delineated.

The choroid plexus frequently contains a number of small vesicles, hanging together in a cluster, from the most depending part. They are generally of the size of lentils, and are filled with a transparent serous fluid, contained in a delicate

* This disease has been named very appropriately, *LE MELANOSIS*, by Mons. Brescet, a French physician, who has written a memoir on it; and who says it occurs very frequently in animals as well as in the human subject. In this country it is certainly very rare.

cyst, on which blood-vessels are occasionally seen ramifying. These vesicles, commonly called hydatids, are not animal hydatids, but merely cysts filled with a serous fluid. They resemble very much the disease of the placenta, in which the whole of that organ is converted into a mass of vesicles of various sizes. Besides these vesicles, gland-like tumours, said to be scrofulous, are, now and then, found in the choroid plexus.

The pineal gland is often found to contain gritty and spicular portions of bone, very small in size, not being larger than the head of a miniken pin, and it is occasionally enlarged, and formed into a cell distended by a serous or albuminous fluid.

PLATE XII.

This plate contains a representation of the white, black, and bony tubercles, and the diseases of the choroid plexus, and pineal gland.

FIGURE 1.

The cerebellum and medulla oblongata dissected, so as to expose the fourth ventricle, in which there is a tubercle of a considerable size.

- A. The lobes of the cerebellum, the greater part of which is cut away.
- B. The fourth ventricle laid open.
- C. The white tubercle projecting into the ventricle, of a round form; firm in its texture, and not very vascular.*
- D. The termination of the medulla oblongata, the pia matral covering of which is very vascular.

* In the 7th plate of the last fasciculus of Dr. Baillie's Morbid Anatomy there is a beautiful representation of this species of tubercle, which he says is of a scrofulous nature. The several bodies which I have examined with this disease, did not, before death, nor in their dissection, afford any other evidence of scrofula. I therefore very much doubt its being scrofula, and think it likely to be a species of cephaloma.



FIGURE 1. *Brachioleptus* (large specimen)
FIGURE 2. *Brachioleptus* (small specimen)
FIGURE 3. *Brachioleptus* (small specimen)
FIGURE 4. *Brachioleptus* (small specimen)
FIGURE 5. *Brachioleptus* (small specimen)
FIGURE 6. *Brachioleptus* (small specimen)

the, as well as increasing the number of such districts. After various attempts had been made, we had found it better to leave qualifications a subject for the future, and the question now was, in what manner we could introduce a national assembly of members to represent the whole of the country, and the Government had determined, accordingly, to proceed to the election of members.

The Government had also issued a circular, appointing special agents, to visit every part of the country, and to ascertain the local conditions, and to report on the same, and the Government had also issued a circular, appointing special agents, to visit every part of the country, and to ascertain the local conditions, and to report on the same.

CHAPTER II

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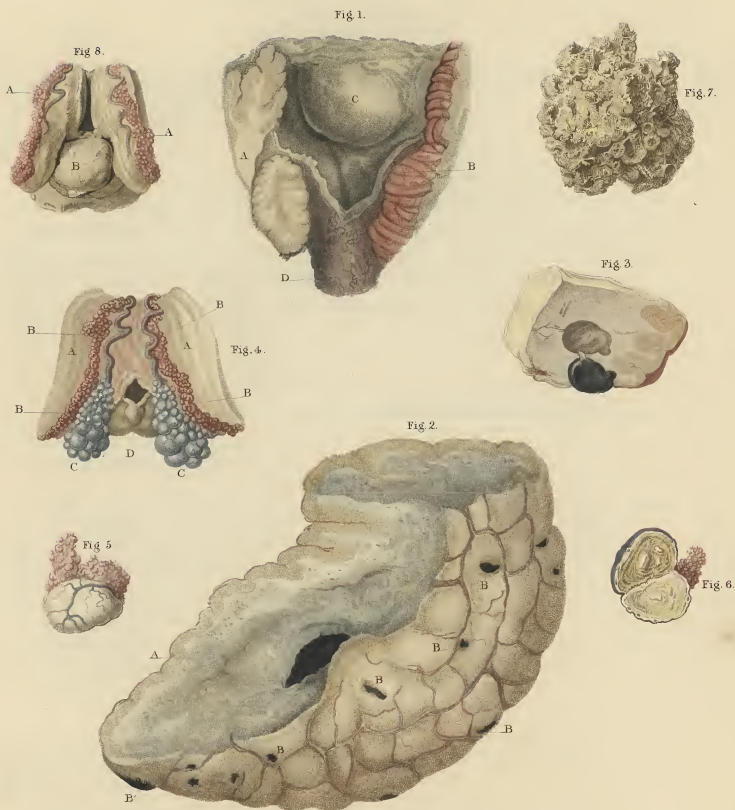
CHAPTER III

The Government had also issued a circular, appointing special agents, to visit every part of the country, and to ascertain the local conditions, and to report on the same.

1. The mode of appointing the members of the assembly.
2. The qualifications of members.
3. The mode of electing the members of the assembly.
4. The mode of electing the members of the assembly.
5. The mode of electing the members of the assembly.

The Government had also issued a circular, appointing special agents, to visit every part of the country, and to ascertain the local conditions, and to report on the same.

PLATE XII.



J. Howship del.

J. Stewart sculp.

TUBERCLES OF THE BRAIN
and
DISEASES OF THE CHOROID PLEXUS AND PINEAL GLAND.

FIGURE 2.

A portion of the posterior part of the right hemisphere of the brain, the whole of which is studded with black tubercles. *

- A. A black tubercle of the size of a hazel-nut.
- B. Lesser tubercles.

This species of tubercle appears, at first sight, as if it were merely a coagulum of very dark venous blood. It is, however, an organized mass, of a pulpy or gelatinous consistence, which can be easily broken down, when it looks like the pigmentum nigrum of the eye, or soft Indian ink. It is surrounded by a very thin delicate membrane. Its structure is cellular; it can easily be turned out of the brain, to which it adheres loosely, except at one point, where the vessels enter by which it is formed and nourished.

FIGURE 3.

A small portion of the brain, with a black tubercle hanging from its cavity by its nutritive vessels.

FIGURE 4.

That portion of the basis of the brain which supports the fornix, and over which the choroid plexus and velum interpositum are spread, but which are removed to bring the pineal gland into view.

- A.A. The thalami nervorum opticorum.
- B. The plexus choroides.
- C. The vesicles of the choroid plexus of various sizes in clusters.
- D. The pineal gland hanging from its crura, and lying on the corpora quadrigemina.

* The subject from which this drawing was taken had this disease in almost every part of his body, both externally and internally. It was found in the liver, lungs, heart, kidney, breasts, and axillary glands; and a fine specimen, from the breast, is preserved in the collection of the Royal College of Surgeons in London.

A woman, turned of fifty years of age, lately died at Elstree, in Hertfordshire, who had this disease in various parts. Her face appeared, at a little distance, as if marked with spots of ink. From the way in which she died, it was likely the disease had seized the internal parts; but no examination was permitted after death.

FIGURE 5.

A gland-like tumour of the choroid plexus, hanging from its posterior part so as to occupy the posterior corner of the lateral ventricle.

FIGURE 6.

The same tumour cut open to show its structure, which is soft and fleshy. Two or three small nuclei are seen in the centre, which are cartilaginous.

FIGURE 7.

A bony tubercle which consisted of the same materials as healthy bone, with a little more animal matter. There is a large cavity within.

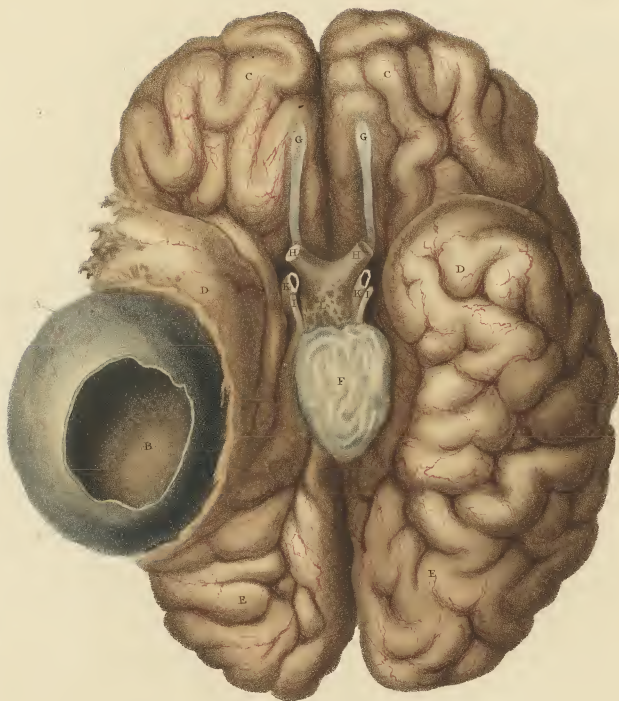
FIGURE 8.

The portion of the brain to which the pineal gland is attached.

- A. The plexus choroides.
- B. The pineal gland converted into an encysted hygroma, and enlarged about four times its natural size, from a collection of an albuminous fluid.



PLATE XIII.



C. Merland del.

J. Wedgwood sculp.

ENCYSTED TUMOUR
of the
BRAIN.

Published by Dr Hooper Jan^y 1836.



Diagram of the
Human Brain
from above

ENCYSTED TUMOURS OF THE BRAIN.

PLATE XIII.

A VIEW of the basis of the brain, in which an encysted tumour is seen in the centre of the middle lobe of the right side. A small part of the cyst is cut away to let out the contents, which were a puriform albumen, of the consistence of cream.

EXPLANATION.

- A. The cyst formed of a firm membrane, smooth internally, composed of one tunic.
- B. The cavity of the cyst.
- C. The anterior lobe of the cerebrum.
- D. The middle lobe.
- E. The posterior lobe.
- F. The pons Varolii, cut through to separate the cerebellum.
- G. The olfactory nerve.
- H. The optic nerve.
- I. I. The third pair, or motores oculorum.
- K. The internal carotid artery.
- L. Portions of solid albumen secreted by the pia mater.

VESICLES IN THE CEREBRUM.

PLATE XIV.

A REPRESENTATION of three vesicles or encysted tumours in the right hemisphere of the brain, occupying the greater part of the anterior and middle lobes.

EXPLANATION.

Both hemispheres of the brain are removed, just above, and level with, the corpus callosum, and the medullary substance of the brain is carefully scraped off from the vesicles.

A. B. C. The three vesicles*, on each of which are vessels ramifying very beautifully.

The fluid contained in these vesicles was of a straw colour, and had very much the appearance of the serum of the blood. As the brain was immersing in alkohol, the vesicles broke, and a much greater quantity of albumen coagulated than is found in the same quantity of the serum of blood.

In two other instances of vesicles in the substance of the brain which I examined, there were flaky portions of solid albumen contained in the cysts.

* These vesicles had very much the appearance of animal hydatids, which I must observe, I have not yet seen within the human cranium. The animal hydatid has, however, been seen by Sir Anthony Carlisle in a human brain. It was enclosed in a cyst, and had the same characters with those simple hydatids, which are found in the abdominal viscera. The present Dr. Munro, of Edinburgh, relates the case of a patient of Dr. Mackenzie, whose brain, "on opening the right ventricle, presented a cyst, about the size of a goose's egg, filled with a watery liquor, and surrounded by a gelatinous matter, which did not adhere to the membrane lining the ventricle." *Mosro's Morbid Anatomy of the Gullet, Stomach, &c.* p. 272. Dr. Munro examined this cyst, which appeared to him "of the same structure as that of hydatids."

PLATE XIV.



Wm. Shipley del.

J. Stewart sculp.

VESICLES OF THE BRAIN.

Published by D. Hooper, Jan^y 1836.



The cysts have no connexion with each other, though in close contact. They are composed of a delicate, transparent, and vascular membrane: adhering firmly to, and embedded in, the substance of the brain.

- D. The anterior lobes of the cerebrum.
- E. The posterior lobes.
- F. The lateral ventricles.
- G. The corpus callosum.
- H. The corpus striatum.
- I. The plexus choroides.
- K. Three vesicles or hydatids, as they are called, in the choroid plexus.
- L. The cerebellum.

EXTRAVASATION OF BLOOD.

PLATE XV.

THIS plate exhibits the usual appearances which the brain presents when blood is extravasated from the spontaneous rupture of a vessel in its substance.

- A. An apoplectic cell, in the centre of the right hemisphere, between the middle of the corpus striatum and the external and lateral surface of the brain. The contents were a sanguineous fluid, partly coagulated. The sides of the cell have become more dense than is natural, and formed into a membranous-like surface, of a brownish colour, which gradually vanishes in the surrounding medullary substance.
- B. The left lateral ventricle, as it appeared when a great quantity of coagulated blood was removed.
- C. The part where the blood-vessel ruptured.
- D. The cineritious or cortical substance of the brain.
- E. The medullary substance.
- F. The corpus callosum.

It has not been thought necessary to give the appearances presented by extravasated blood between the membranes of the brain.

THE END.



C. Kirland del.

J. Wedgwood sculp.

EXTRAVASATION OF BLOOD
in the
BRAIN.

Published by D. Hooper, Jan^y 1826.



